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EXAMINER	
STAICOVICI, STEFAN	

ART UNIT	PAPER NUMBER
1732	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/618,985	WONG, TIT SHING	
	Examiner	Art Unit	
	Stefan Staicovici	1732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 March 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,6-23 and 46-66* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,6-23,46-66* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Applicant's amendment filed March 6, 2006 has been entered. Claims 1, 6-23 and 46-66 are pending in the instant application.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1, 6-23, 47 and 56-57 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In claim 1, the newly added limitation of "including the whole face from forehead to neck" does not appear to have support in the original disclosure. Although the original disclosure appears to have support for a "complete doll head below a latitudinal plane intersecting the head at a position below the eyes and below the crown of the head" the original disclosure does not appear to have support for "including the whole face from forehead to neck". Further clarification is required.

In claims 13, 47 and 56, the original disclosure does not appear to have support for the claimed numerical values of the predetermined ratio.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1, 6-23 and 46-66 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 1 and 46, the relationship between the first and second mold cavities is unclear. It is suggested to include that the first mold cavity defines a "complete doll head below a latitudinal plane intersecting the head at a position below the eyes and below the crown of the head," whereas the second mold cavity defines the "remaining portion of the doll head not otherwise defined by first mold cavity" (see page 8, lines 16-18 and page 9, lines 26-28 of the original disclosure).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1 and 6-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Valyi (US Patent No. 4,115,494) in view of Taluba (US Patent No. 4,143,453) and in further view of Fekete *et al* (US Patent No. 6,403,003), Belcher (US Patent No. 6,733,716) and Winstead (US Patent No. 2,702,411).

Valyi ('494) teaches the basic claimed process for making a deformable, hollow thermoplastic article (abstract) comprising: (a) providing an injection moldable flexible thermoplastic elastomer (abstract); (b) providing a first mold (column 3, lines 20-21); the mold comprising exterior mold front and rear sections and an interior core extending vertically into the mold cavity (column 3, lines 20-21), the first mold comprising a parison injection station (column 3, lines 6-7), wherein the exterior sections of the first mold are spaced apart from the interior core to define a cavity in the shape of a substantial portion of the article (figure 1 , number 11), (c) assembling the exterior mold sections of the first mold thereby forming a planar junction between the exterior mold pads (figure 1, number 11), (d) injecting the elastomer into the first mold cavity to form a parison (column 3, lines 6-8), having the shape of the mold cavity (e) opening the exterior mold parts of the first mold and transferring the rear section of the first mold and the parison to a blow station (figure 2B, number 20), (f) providing a second mold at the blow station, the second mold comprising an exterior mold front section, the rear section of the first mold, and an interior core, wherein the exterior mold front section and the rear section of the first mold exterior sections are oriented latitudinal (see mold parts (21) and (23) in Figure 2B) and the exterior sections of the second mold are spaced apart from the interior core to define a cavity in the shape of the entirety of the hollow article (column 4, lines 18-22), (g) drawing a

vacuum on, and injecting compressed gas into, the second mold, thereby dispersing the parison relatively evenly, and with a substantially uniform thickness, against the second mold cavity interior surface to form the hollow article (column 4, lines 32-33), the hollow article having an opening for removing the interior core (figure 2B), (h) cooling the dispersed parison, thereby causing it to set and form the hollow article segment (abstract) and (f) separating the second mold interior core from the hollow article (column 4, lines 5-57).

Regarding claim 1, Valyi ('494) does not teach molding a doll's head; hence Valyi ('494) does not teach that the mold cavity has the shape of a doll's head. Taluba ('453) teaches molding a doll's head (see Abstract). Further, it is noted that a molded product takes its shape form the mold; hence a mold making a doll's head must have the shape of said doll's head. Therefore, it would have been obvious for one of ordinary skill in the art to have formed a doll's head as taught by Taluba ('453) using the process of Valyi ('494) because, Valyi ('494) teaches an efficient molding process for hollow thermoplastic articles, whereas the doll head of Taluba ('453) is a hollow thermoplastic article, hence suggesting the molding of a doll head.

Further regarding claim 1, Valyi ('494) in view of Taluba ('453) do not teach that a vacuum is drawn upon the first mold cavity for a few seconds prior to the end of the elastomer injection period. Fekete *et al* ('003) teach that a vacuum is drawn upon the first mold cavity for a few seconds prior to the end of the elastomer injection period. It is submitted that a few seconds is about 3-10 seconds. Therefore, it would have been obvious to a person of ordinary skill in the art to draw a vacuum for a few seconds (3-10 seconds) prior to the end of the elastomer injection period as taught by Fekete *et al* ('003) in the process of Valyi ('494) in view of Taluba ('453).

because Fekete *et al* ('003) specifically teaches that the vacuum decreases the cycle time, hence increasing productivity and providing for an improved process (column 8, lines 49-58 of Fekete *et al* ('003)).

Further regarding claim 1, Valyi ('494) in view of Taluba ('453) do not explicitly teach that the parison injection station pressure is from about 200 psi to about 1000 psi, the second mold cavity vacuum pressure ranges from about -7 psig to about -14.5 psig, and the pressure of the compressed gas injected into the second mold ranges from about 80 psig to about 1000 psig. However, it is submitted that said molding parameters are result-effective variables as evidenced by Fekete *et al* ('003), Belcher ('716) and Winstead ('411). In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977). Specifically, Fekete *et al* ('003) teaches injection molding where the thermoplastic is injected at a pressure of 200 to 1000 psi (column 8, line 28). Belcher ('716) teaches blow molding where the pressure of the compressed gas injected into the mold ranges from about 100 psi to about 750 psi, which overlaps the claimed range of about 80 psig to about 1000 psig (column 6, lines 15-18) and, Winstead ('411) teaches a mold cavity vacuum pressure of 15 psi, which is about 14.5 psig (column 3, lines 59-63). Further, it is noted that Fekete *et al* ('003) teaches that the parison injection station temperature is from about 300 to 550 degrees C, which overlaps the claimed range of 150-300 degrees C (column 8, line 31). Belcher ('716) teaches that the temperature of the compressed gas injected into the second mold ranges from about 40 to about 120 degrees F (4.4 to 48.9 degrees C), which overlaps the claimed range of about 30 degrees C to 40 degrees C. Furthermore, Fekete *et al* ('003) teaches that the elastomer is injected into the first mold cavity over a period of from about 0.2 to about 6 seconds and the

cooled and dispersed parison sets within the second mold in about 5 seconds to about 90 seconds (column 8, lines 24-38). Therefore, it would have been obvious to a person of ordinary skill in the art to combine these result effective variables taught by Fekete *et al* ('003), Belcher ('716) and Winstead ('411) with the process taught by Valyi ('494) in view of Taluba ('453) because such parameters allow for an improved molding process by maintaining the thermoplastic material at the proper temperature and pressure to conform it to the mold, hence providing for an improved molded product. Further, it is noted that it has been held that discovering the optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

In regard to claims 6-7, Taluba ('453) teaches using KRATON@, which is a block styrene and butadiene copolymer (column 4, line 16). It is submitted that KRATON@ has an elasticity between 250-550%. Therefore, it would have been obvious for one of ordinary skill in the art to have provided KRATON@ block styrene and butadiene copolymer as taught by Taluba ('453) as the elastomer in the process of Valyi ('494) in view of Fekete *et al* ('003) and in further view of Belcher ('716) and Winstead ('411) because of known advantages that KRATON@ provides such as cost, availability, ease of operation and also because Valyi ('494) teaches the use of an elastomer, hence suggesting the use of KRATON@.

Specifically regarding claim 8, Valyi ('494) teaches a vacuum is drawn on the second mold through a valve pin inserted through the second mold cavity (column 9, lines 12-13), and that the pressurized gas is injected into the second mold cavity through a movable core pin (column 4. lines 32-33).

Regarding claim 9, Valyi ('494) teaches that a vacuum is drawn on, and compressed gas is injected into the second mold relatively simultaneously (column 9, lines 7-13).

Specifically regarding claim 11, Valyi ('494) in view of Taluba ('453) and in further view of Belcher ('716) and Winstead ('411) do not teach that the interior core of the second mold includes a core ejector pin and a core sleeve surrounding the pin. Fekete *et al* ('003) teaches that the interior core of the second mold includes a core ejector pin and a core sleeve surrounding the pin, and that upon separation of the second mold interior core from the deformable hollow thermoplastic article the core sleeve is retained in a fixed position relative to the ejector pin such that the ejector pin is forced upwards against the deformable hollow thermoplastic article to push the deformable hollow thermoplastic article off of the core sleeve, thereby removing the deformable hollow thermoplastic article from the ejector pin (column 6, lines 31-50). Therefore, it would have been obvious to a person of ordinary skill in the art to have provided the ejector pin assembly as taught by Fekete *et al* ('003) in the process of Valyi ('494) in view of Taluba ('453) and in further view of Belcher ('716) and Winstead ('411) because such an ejector pin assembly provides for easy removal of the resulting molded product, hence providing for an improved product.

Regarding claim 12, Taluba ('453) teaches that the interior core of the second mold includes a hollow conduit in communication with the interior of the deformable hollow thermoplastic article-forming cavity, and a pressurized gas is blown through the conduit and into the hollow interior of the deformable hollow thermoplastic article to separate it from the second mold interior core (column 4, lines 4-10). Therefore, it would have been obvious for one of

ordinary skill in the art to have provided a hollow conduit as taught by Taluba ('453) to blow the interior of the hollow article in the process of Valyi ('494) in view of Fekete *et al* ('003) and in further view of Belcher ('716) and Winstead ('411) because Valyi ('494) teaches injecting compressed gas, hence suggesting the use of a hollow conduit to introduce said compressed gas and also because a hollow conduit allows for improved control of the gas, hence providing for an improved process.

Specifically regarding claims 13-14, Taluba ('453) teaches that the thermoplastic elastomer is a S- B-S copolymer (column 4, lines 16-18). Fekete *et al* ('003) teaches that the pre-determined ratio is about 3, which is less than 4 (column 8, lines 2-4). Therefore, it would have been obvious for one of ordinary skill in the art to have provided a core with a ratio that is less than 4 as taught by Taluba ('453) in the process of Valyi ('494) in view of Fekete *et al* ('003) and in further view of Belcher ('716) and Winstead ('411) because, such a core provides for a parison that more closely resembles the finished product, hence providing for less waste and an improved process. Further, it would have been obvious for one of ordinary skill in the art to have provided a S- B-S copolymer as taught by Taluba ('453) as the elastomer in the process of Valyi ('494) in view of Fekete *et al* ('003) and in further view of Belcher ('716) and Winstead ('411) because of known advantages that a S- B-S copolymer provides such as cost, availability, ease of operation and also because Valyi ('494) teaches the use of an elastomer, hence suggesting the use of a S- B-S copolymer.

Regarding claims 15-17, Valyi ('494) in view of Taluba ('453) and in further view of Belcher ('716) and Winstead ('411) do not teach placing a removable object onto the surface of

the interior core of the second mold; assembling the exterior parts of the second mold around the core and removable object, and overmolding the removable object with the thermoplastic elastomer when the parison is dispersed within the second mold cavity interior surface, such that the removable object is retained in the deformable hollow thermoplastic article when the interior core is removed. Fekete *et al* ('003) teaches placing a removable object onto the surface of the interior core of the second mold; assembling the exterior parts of the second mold around the core and removable object, and overmolding the removable object with the thermoplastic elastomer when the parison is dispersed within the second mold cavity interior surface, such that the removable object is retained in the deformable hollow thermoplastic article when the interior core is removed (column 4, lines 38-53). Further, Fekete *et al* ('003) teaches that the thermoplastic elastomer overmolds only a portion of the removable object such that the removable object protrudes through the exterior surface of the deformable hollow thermoplastic article (column 4, lines 38-53). Furthermore, Fekete *et al* ('003) teaches the removable object is a doll eye and the deformable hollow thermoplastic article is a doll head (column 4, lines 38-53). Therefore, it would have been obvious for one of ordinary skill in the art to have provided a removable object that is overmolded as taught by Fekete *et al* ('003) in the process of Valyi ('494) in view of Taluba ('453) and in further view of Belcher ('716) and Winstead ('411) because such a removable object that is overmolded provides for an improved product by allowing a more versatile product be molded (*i.e.*, provides for an eye).

In regard to claims 18-19, Valyi ('494) in view of Taluba ('453) and in further view of Belcher ('716) and Winstead ('411) do not teach placing at least one portion of an exterior pad of

the first mold in contact with the interior core to define at least one opening to be formed in the deformable hollow thermoplastic article. Fekete *et al* ('003) teaches placing at least one portion of an exterior pad of the first mold in contact with the interior core to define at least one opening to be formed in the deformable hollow thermoplastic article (column 4, lines 32-37). Further, Fekete *et al* ('003) teaches placing an article into at least one of said openings formed by the contact between the exterior mold pad and interior core after the deformable hollow thermoplastic article is removed from the second mold interior core (column 4, lines 32-37). Therefore, it would have been obvious for one of ordinary skill in the art to have provided at least one portion of an exterior pad of the first mold in contact with the interior core as taught by Fekete *et al* ('003) to define at least one opening in the hollow doll head and place an object into said opening in the process of Valyi ('494) in view of Taluba ('453) and in further view of Belcher ('716) and Winstead ('411) because, such an opening provides for an improved product by allowing a more versatile product be molded (*i.e.*, provides for an eye-socket).

Specifically regarding claim 20, Valyi ('494) in view of Taluba ('453) and in further view of Belcher ('716) and Winstead ('411) do not teach removing the head from the second mold interior core, wherein the second mold interior core comprises at least two separable sections, and the hollow doll head is removed from the second mold interior core by separately and individually removing each separable core section from the head through the opening. Fekete *et al* ('003) teaches removing the head from the second mold interior core, wherein the second mold interior core comprises at least two separable sections, and the hollow doll head is removed from the second mold interior core by separately and individually removing each

separable core section from the head through the opening (column 5, lines 1-8). Therefore, it would have been obvious for one of ordinary skill in the art to have removed the resulting doll head by removing each section as taught by Fekete *et al* ('003) in the process of Valyi ('494) in view of Taluba ('453) and in further view of Belcher ('716) and Winstead ('411) because separable sections allow for an easier ejection process, hence providing for an improved process.

Regarding claims 21-22, Valyi ('494) in view of Taluba ('453) and in further view of Belcher ('716) and Winstead ('411) do not teach a removable core having separable sections. Fekete *et al* ('003) teaches at least one of the interior core separable sections of the second mold is a key section that must be removed first to allow other separable sections to be later removed (column 5, lines 9-20). Further, Fekete *et al* ('003) teaches that after the interior core separable sections of the second mold are removed from the deformable hollow thermoplastic article, the sections are reassembled and replaced in the exterior of the second mold for forming another deformable hollow thermoplastic article (column 5, lines 1-8). Therefore, it would have been obvious for one of ordinary skill in the art to have removed the resulting doll head by removing the separable sections of Fekete *et al* ('003) in the process of Valyi ('494) in view of Taluba ('453) and in further view of Belcher ('716) and Winstead ('411) because separable sections allow for an easier ejection process, hence providing for an improved process.

8. Claims 46, 50-53 and 55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Valyi (US Patent No. 4,115,494) in view of Taluba (US Patent No. 4,143,453).

Valyi ('494) teaches the basic claimed process for making a deformable, hollow thermoplastic article (abstract) comprising: (a) providing an injection moldable flexible

thermoplastic elastomer (abstract); (b) providing a first mold (column 3, lines 20-21); the mold comprising exterior mold front and rear sections and an interior core extending vertically into the mold cavity (column 3, lines 20-21), the first mold comprising a parison injection station (column 3, lines 6-7), wherein the exterior sections of the first mold are spaced apart from the interior core to define a cavity in the shape of a substantial portion of the article (figure 1 , number 11), (c) assembling the exterior mold sections of the first mold thereby forming a planar junction between the exterior mold pads (figure 1, number 11), (d) injecting the elastomer into the first mold cavity to form a parison (column 3, lines 6-8), having the shape of the mold cavity (e) opening the exterior mold parts of the first mold and transferring the rear section of the first mold and the parison to a blow station (figure 2B, number 20), (f) providing a second mold at the blow station, the second mold comprising an exterior mold front section, the rear section of the first mold, and an interior core, wherein the exterior mold front section and the rear section of the first mold exterior sections are oriented latitudinal (see mold parts (21) and (23) in Figure 2B) and the exterior sections of the second mold are spaced apart from the interior core to define a cavity in the shape of the entirety of the hollow article (column 4, lines 18-22), (g) drawing a vacuum on, and injecting compressed gas into, the second mold, thereby dispersing the parison relatively evenly, and with a substantially uniform thickness, against the second mold cavity interior surface to form the hollow article (column 4, lines 32-33), the hollow article having an opening for removing the interior core (figure 2B), (h) cooling the dispersed parison, thereby causing it to set and form the hollow article segment (abstract) and (f) separating the second

mold interior core from the hollow article (column 4, lines 5-57). It is note that a molded object takes the shape of the mold, hence it is submitted that

Regarding claim 46 Valyi ('494) does not teach molding a doll's head, hence Valyi ('494) does not teach that the mold cavity has the shape of a doll's head. Taluba ('453) teaches molding a doll's head (see Abstract). Further, it is noted that a molded product takes its shape form the mold, hence a mold making a doll's head must have the shape of said doll's head. Therefore, it would have been obvious for one of ordinary skill in the art to have formed a doll's head as taught by Taluba ('453) using the process of Valyi ('494) because, Valyi ('494) teaches an efficient molding process for hollow thermoplastic articles, whereas the doll head of Taluba ('453) is a hollow thermoplastic article, hence suggesting the molding of a doll head.

In regard to claims 50-51, Taluba ('453) teaches using KRATON@, which is a block styrene and butadiene copolymer (column 4, line 16). It is submitted that KRATON@ has an elasticity between 250-550%. Therefore, it would have been obvious for one of ordinary skill in the art to have provided KRATON@ block styrene and butadiene copolymer as taught by Taluba ('453) as the elastomer in the process of Valyi ('494) because of known advantages that KRATON@ provides such as cost, availability, ease of operation and also because Valyi ('494) teaches the use of an elastomer, hence suggesting the use of KRATON@.

Specifically regarding claim 52, Valyi ('494) teaches a vacuum is drawn on the second mold through a valve pin inserted through the second mold cavity (column 9, lines 12-13), and that the pressurized gas is injected into the second mold cavity through a movable core pin (column 4. lines 32-33).

Regarding claim 53, Valyi ('494) teaches that a vacuum is drawn on, and compressed gas is injected into the second mold relatively simultaneously (column 9, lines 7-13).

Specifically regarding claim 55, Taluba ('453) teaches that the interior core of the second mold includes a hollow conduit in communication with the interior of the deformable hollow thermoplastic article-forming cavity, and a pressurized gas is blown through the conduit and into the hollow interior of the deformable hollow thermoplastic article to separate it from the second mold interior core (column 4, lines 4-10). Therefore, it would have been obvious for one of ordinary skill in the art to have provided a hollow conduit as taught by Taluba ('453) to blow the interior of the hollow article in the process of Valyi ('494) because Valyi ('494) teaches injecting compressed gas, hence suggesting the use of a hollow conduit to introduce said compressed gas and also because a hollow conduit allows for improved control of the gas, hence providing for an improved process.

9. Claims 48 is rejected under 35 U.S.C. 103(a) as being unpatentable over Valyi (US Patent No. 4,115,494) in view of Taluba (US Patent No. 4,143,453) and in further view of Fekete *et al* (US Patent No. 6,403,003), Belcher (US Patent No. 6,733,716) and Winstead (US Patent No. 2,702,411).

Valyi ('494) in view of Taluba ('453) teach the basic claimed process as described above.

Regarding claim 48, Valyi ('494) in view of Taluba ('453) do not teach that a vacuum is drawn upon the first mold cavity for a few seconds prior to the end of the elastomer injection period. Fekete *et al* ('003) teach that a vacuum is drawn upon the first mold cavity for a few seconds prior to the end of the elastomer injection period. It is submitted that a few seconds is

about 3-10 seconds. Therefore, it would have been obvious to a person of ordinary skill in the art to draw a vacuum for a few seconds (3-10 seconds) prior to the end of the elastomer injection period as taught by Fekete *et al* ('003) in the process of Valyi ('494) in view of Taluba ('453). because Fekete *et al* ('003) specifically teaches that the vacuum decreases the cycle time, hence increasing productivity and providing for an improved process (column 8, lines 49-58 of Fekete *et al* ('003)).

Further regarding claim 48, Valyi ('494) in view of Taluba ('453) do not explicitly teach that the parison injection station pressure is from about 200 psi to about 1000 psi, the second mold cavity vacuum pressure ranges from about -7 psig to about -14.5 psig, and the pressure of the compressed gas injected into the second mold ranges from about 80 psig to about 1000 psig. However, it is submitted that said molding parameters are result-effective variables as evidenced by Fekete *et al* ('003), Belcher ('716) and Winstead ('411). In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977). Specifically, Fekete *et al* ('003) teaches injection molding where the thermoplastic is injected at a pressure of 200 to 1000 psi (column 8, line 28). Belcher ('716) teaches blow molding where the pressure of the compressed gas injected into the mold ranges from about 100 psi to about 750 psi, which overlaps the claimed range of about 80 psig to about 1000 psig (column 6, lines 15-18) and, Winstead ('411) teaches a mold cavity vacuum pressure of 15 psi, which is about 14.5 psig (column 3, lines 59-63). Further, it is noted that Fekete *et al* ('003) teaches that the parison injection station temperature is from about 300 to 550 degrees C, which overlaps the claimed range of 150-300 degrees C (column 8, line 31). Belcher ('716) teaches that the temperature of the compressed gas injected into the second mold ranges from

about 40 to about 120 degrees F (4.4 to 48.9 degrees C), which overlaps the claimed range of about 30 degrees C to 40 degrees C. Furthermore, Fekete *et al* ('003) teaches that the elastomer is injected into the first mold cavity over a period of from about 0.2 to about 6 seconds and the cooled and dispersed parison sets within the second mold in about 5 seconds to about 90 seconds (column 8, lines 24-38). Therefore, it would have been obvious to a person of ordinary skill in the art to combine these result effective variables taught by Fekete *et al* ('003), Belcher ('716) and Winstead ('411) with the process taught by Valyi ('494) in view of Taluba ('453) because such parameters allow for an improved molding process by maintaining the thermoplastic material at the proper temperature and pressure to conform it to the mold, hence providing for an improved molded product. Further, it is noted that it has been held that discovering the optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

10. Claims 47, 49, 54 and 56-66 are rejected under 35 U.S.C. 103(a) as being unpatentable over Valyi (US Patent No. 4,115,494) in view of Taluba (US Patent No. 4,143,453) and in further view of Fekete *et al* (US Patent No. 6,403,003).

Valyi ('494) in view of Taluba ('453) teach the basic claimed process as described above.

Regarding claims 47 and 56-57, Taluba ('453) teaches that the thermoplastic elastomer is a S- B-S copolymer (column 4, lines 16-18). Fekete *et al* ('003) teaches that the pre-determined ratio is about 3, which is less than 4:1 (column 8, lines 2-4). Therefore, it would have been obvious for one of ordinary skill in the art to have provided a core with a ratio that is than 4:1 as taught by Taluba ('453) in the process of Valyi ('494) in view of Fekete *et al* ('003) because,

such a core provides for a parison that more closely resembles the finished product, hence providing for less waste and an improved process. Further, it would have been obvious for one of ordinary skill in the art to have provided a S- B-S copolymer as taught by Taluba ('453) as the elastomer in the process of Valyi ('494) in view of Fekete *et al* ('003) because of known advantages that a S- B-S copolymer provides such as cost, availability, ease of operation and also because Valyi ('494) teaches the use of an elastomer, hence suggesting the use of a S- B-S copolymer.

In regard to claims 49 and 66, although Valyi ('494) in view of Taluba ('453) teaches a doll head, Valyi ('494) in view of Taluba ('453) do not teach a doll head with ears and a hair line, the hair line forming a substantially continuous circle extending around the top of the head and above the ears, and a mold interior core that defines a cavity in the shape of the portion of the hollow doll head below the hair line. Fekete *et al* ('003) teaches a hollow doll head with ears and a hair line, wherein the hair line is forming a substantially continuous circle extending around the top of the head and above the ears, and a mold interior core that defines a cavity in the shape of the portion of the hollow doll head below the hair line. Further, Fekete *et al* ('003) teaches rooting hair-material to the top of the doll head above and below the part line with a sufficient density such that the part line is not observable to an ordinary observer holding the doll at arms length (column 6, lines 51-61). Therefore, it would have been obvious to a person of ordinary skill in the art to use the mold taught by Fekete *et al* ('003) as the first mold in the process of Valyi ('494) in view of Taluba ('453) because, such a mold would allow forming a parison shaped more closely to the finished product (Figure 2B of Valyi ('494)), hence reducing

cycle time and waste material and also to form a doll head where the sprue is located above the hair line in order to disguise it (Fekete *et al* ('003), column 2, lines 31-39).

Specifically regarding claim 54, Valyi ('494) in view of Taluba ('453) do not teach that the interior core of the second mold includes a core ejector pin and a core sleeve surrounding the pin. Fekete *et al* ('003) teaches that the interior core of the second mold includes a core ejector pin and a core sleeve surrounding the pin, and that upon separation of the second mold interior core from the deformable hollow thermoplastic article the core sleeve is retained in a fixed position relative to the ejector pin such that the ejector pin is forced upwards against the deformable hollow thermoplastic article to push the deformable hollow thermoplastic article off of the core sleeve, thereby removing the deformable hollow thermoplastic article from the ejector pin (column 6, lines 31-50). Therefore, it would have been obvious to a person of ordinary skill in the art to have provided the ejector pin assembly as taught by Fekete *et al* ('003) in the process of Valyi ('494) in view of Taluba ('453) because such an ejector pin assembly provides for easy removal of the resulting molded product, hence providing for an improved product.

Regarding claims 58-60, Valyi ('494) in view of Taluba ('453) do not teach placing a removable object onto the surface of the interior core of the second mold; assembling the exterior parts of the second mold around the core and removable object, and overmolding the removable object with the thermoplastic elastomer when the parison is dispersed within the second mold cavity interior surface, such that the removable object is retained in the deformable hollow thermoplastic article when the interior core is removed. Fekete *et al* ('003) teaches placing a removable object onto the surface of the interior core of the second mold; assembling

the exterior parts of the second mold around the core and removable object, and overmolding the removable object with the thermoplastic elastomer when the parison is dispersed within the second mold cavity interior surface, such that the removable object is retained in the deformable hollow thermoplastic article when the interior core is removed (column 4, lines 38-53). Further, Fekete *et al* ('003) teaches that the thermoplastic elastomer overmolds only a portion of the removable object such that the removable object protrudes through the exterior surface of the deformable hollow thermoplastic article (column 4, lines 38-53). Furthermore, Fekete *et al* ('003) teaches the removable object is a doll eye and the deformable hollow thermoplastic article is a doll head (column 4, lines 38-53). Therefore, it would have been obvious for one of ordinary skill in the art to have provided a removable object that is overmolded as taught by Fekete *et al* ('003) in the process of Valyi ('494) in view of Taluba ('453) because such a removable object that is overmolded provides for an improved product by allowing a more versatile product be molded (*i.e.*, provides for an eye).

In regard to claims 61-62, Valyi ('494) in view of Taluba ('453) do not teach placing at least one portion of an exterior part of the first mold in contact with the interior core to define at least one opening to be formed in the deformable hollow thermoplastic article. Fekete *et al* ('003) teaches placing at least one portion of an exterior part of the first mold in contact with the interior core to define at least one opening to be formed in the deformable hollow thermoplastic article (column 4, lines 32-37). Further, Fekete *et al* ('003) teaches placing an article into at least one of said openings formed by the contact between the exterior mold pad and interior core after the deformable hollow thermoplastic article is removed from the second mold interior core

(column 4, lines 32-37). Therefore, it would have been obvious for one of ordinary skill in the art to have provided at least one portion of an exterior pad of the first mold in contact with the interior core as taught by Fekete *et al* ('003) to define at least one opening in the hollow doll head and place an object into said opening in the process of Valyi ('494) in view of Taluba ('453) because, such an opening provides for an improved product by allowing a more versatile product be molded (*i.e.*, provides for an eye-socket).

Specifically regarding claim 63, Valyi ('494) in view of Taluba ('453) do not teach removing the head from the second mold interior core, wherein the second mold interior core comprises at least two separable sections, and the hollow doll head is removed from the second mold interior core by separately and individually removing each separable core section from the head through the opening. Fekete *et al* ('003) teaches removing the head from the second mold interior core, wherein the second mold interior core comprises at least two separable sections, and the hollow doll head is removed from the second mold interior core by separately and individually removing each separable core section from the head through the opening (column 5, lines 1-8). Therefore, it would have been obvious for one of ordinary skill in the art to have removed the resulting doll head by removing each section as taught by Fekete *et al* ('003) in the process of Valyi ('494) in view of Taluba ('453) because separable sections allow for an easier ejection process, hence providing for an improved process.

Regarding claims 64-65, Valyi ('494) in view of Taluba ('453) do not teach a removable core having separable sections. Fekete *et al* ('003) teaches at least one of the interior core separable sections of the second mold is a key section that must be removed first to allow other

separable sections to be later removed (column 5, lines 9-20). Further, Fekete *et al* ('003) teaches that after the interior core separable sections of the second mold are removed from the deformable hollow thermoplastic article, the sections are reassembled and replaced in the exterior of the second mold for forming another deformable hollow thermoplastic article (column 5, lines 1-8). Therefore, it would have been obvious for one of ordinary skill in the art to have removed the resulting doll head by removing the separable sections of Fekete *et al* ('003) in the process of Valyi ('494) in view of Taluba ('453) because separable sections allow for an easier ejection process, hence providing for an improved process.

Response to Arguments

11. Applicant's arguments filed March 6, 2006 have been considered.

12. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

13. Applicant argues that "[T]he present invention makes use of injection molding to mold the *final details of the head* within the first mold...and use blow molding to expand and thin up the *top part* where the surface is mainly smooth and has *no detailed structure*" (emphases added) Further Applicant argues that "[N]othing in the secondary references suggests that the final form of a doll head could be determined in part by injection molding and in part by blow molding...a molded product such as a doll head could have *some final features determined by injection* and

other features of the molded product *determined by blow molding*" (see pages 14-15 and 17-18 of the amendment filed 3/6/2006). However, it is noted that the features upon which applicant relies are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). It is further noted that a molded product takes its shape form the mold, hence a mold making a doll's head must have the shape of said doll's head, including its facial features. As such, it is submitted that the process of Valyi ('494) in view of Taluba ('453) teaches a mold in the shape of a doll's head.

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stefan Staicovici, Ph.D. whose telephone number is (571) 272-1208. The examiner can normally be reached on Monday-Friday 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson, can be reached on (571) 272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Stefan Staicovici, PhD

Primary Examiner 5/13/06

AU 1732

May 13, 2006